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ABSTRACT

The Children's Attitudes Toward the Elderly (CATE) is designed to assess the attitudes of children, ages 3 to 11, towards the elderly through analysis of the affective, behavioral, and knowledge components of attitudes. To achieve a balanced sample of test items for each domain, four measurement techniques are used: open-ended questions: semantic differential: picture series: and individual interviews, a Piaget-based technique designed to assess children's cognitive development in regard to concepts of age. For each subtest, the following information is given: administration, definitions and scoring, and validity and reliability. Norming data are included in the manual. The four subtests are appended. (MH)

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TEST MANUAL

THE CATE

CHILDREN'S ATTITUDES TOWARD THE ELDERLY

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TEST MANUAL

THE CATE

CHILDREN'S ATTITUDES TOWARD THE ELDERLY

TABLE OF CONTENTS

	Page
Introduction	1
Description and Utility of The CATE	2
Word Association Subtest	3
Administration	4
Definitions and Scoring	5
Section 1	5
Section 2	6
Section 3	8
Section 4	8
Validity and Reliability	9
Semantic Differential	9
Administration	11
Definitions and Scoring	11
Validity and Reliability	12
Picture Series	14
Administration	16
Definitions and Scoring	16
Section 1	16
Section 2	19
Section 3	19

Page

The Child's Concept of Age 21

Administration 23

Definitions and Scoring 23

Levels of Concept of Age Subtest 24

Validity and Reliability 32

Normative Data 35

Appendices

Appendix A i

Appendix B iv

References x

List of Tables

Page

Table 1 - Total Scale and Item Statistics on Semantic Differential for Concepts Young People and Old People 13

Table 2 - Means and Standard Deviations of Age Estimates of the Four Pictures 15

Table 3 - Means and Standard Deviations on Child's Concept of Age by Grade and Sex 33

Table 4 - Description of Sample-Sex, Housing Type, Race by Grade 37

Table 5 - Means and Standard Deviations for Summed Score on Concepts Young People and Old People for Total Sample and By Grade 39

Table 6 - Means and Standard Deviations for Item Scores on Concepts Young People and Old People For Total Sample and By Grade (Items 1 and 20) 40

Table 7 - Means and Standard Deviations for Item Scores on Concepts Young People and Old People For Total Sample and By Grade (Items 2 and 19) 41

Table 8 - Means and Standard Deviations for Item Scores on Concepts Young People and Old People for Total Sample and By Grade (Items 3 and 18) 42

Table 9 - Means and Standard Deviations for Item Scores on Concepts Young People and Old People for Total Sample and By Grade (Items 4 and 17) 43

Table 10 Means and Standard Deviations for Item Scores on Concepts Young People and Old People for Total Sample and By Grade (Items 5 and 16) 44

Table 11 Means and Standard Deviations for Item Scores on Concepts Young People and Old People for Total Sample and By Grade (Items 6 and 15) 45

Table 12 Means and Standard Deviations for Item Scores on Concepts Young People and Old People for Total Sample and By Grade (Items 7 and 14) 46

Page

Table 13 - Means and Standard Deviations for Item Scores on Concepts Young People and Old People for Total Sample and By Grade (Items 8 and 13) 47

Table 14 - Means and Standard Deviations for Item Scores on Concepts Young People and Old People For Total Sample and By Grade (Items 9 and 12) 48

Table 15 - Means and Standard Deviations for Item Scores on Concepts Young People and Old People For Total Sample and By Grade (Items 10 and 11) 49

Table 16 - Means and Standard Deviations of Age Estimates By Grade for Pictures of Four Men 51

Table 17 - Mean and Standard Deviations on Child's Concept of Age By Grade and Sex 53

List of Figures

	Page
Figure 1 - Characteristics of the Community	36
Figure 2 - Characteristics of the Schools Within the County .	36
Figure 3 - Characteristics of the Schools Participating in the Study	36

THE CATE

I. Introduction

As gerontological research has provided new documentation of facts about the elderly, there has been an interest on the part of researchers in exploring measurement techniques appropriate to the study of attitudes of various groups toward old people. Investigations have been of two types:

1. Society level studies which use the general level of regard, or prestige, of the elderly in society as dependent variables.
2. Individual or analytic-sub-group studies which emphasize attitudes and stereotypes others hold toward the elderly and describe them in terms of sociological and psychological variables.

The assessment of findings from studies of individual attitudes toward the elderly have been hampered by the nature of the samples. Generally these studies have been conducted on high school or college students, and adults (McTavish, 1971). There have been few instruments designed which are appropriate for use with children and which adequately cover the construct attitudes toward the elderly.

The body of literature on attitude development indicates that a child's attitudes develop early in life and remain as stable, enduring influences (Klausmeier, 1974). Further, such attitudes will predispose the individual to act and react in a consistent way, favorable or unfavorable, toward persons, objects, situations or ideas (Mussen, 1969). As attitudes are learned and contain three interrelated components 1) a cognitive component, 2) an affective component, and 3) an action or behavioral component, some understanding of them becomes prerequisite for planning appropriate educational experiences for

children (Krech, Crutchfield, and Ballachey, 1962).

The Children's Attitudes Toward the Elderly, (The Cate), instrument is designed to assess children's attitudes toward old people through analysis of the affective, behavioral and knowledge components of attitudes. From each component, assessment items have been constructed. In order to achieve both a balanced sample of items in the cognitive, affective, and behavioral areas, and an instrument appropriate for use with children ages 3 to 11, four measurement techniques are employed. The subtests probe children's attitudes in different ways. In the first subtest, open-ended questions are utilized. The second, a semantic differential, employs standardized bi-polar scales on the evaluative dimension of attitudes. The third, a picture series, employs concrete visual representations to elicit responses. The final subtest, a Piaget based instrument, is designed to probe the child's cognitive-development level with regard to concepts of age. Each subtest is explained in detail in the following sections.

The CATE was developed to provide the capability for assessing children's attitudes toward the elderly and the development of children's concepts of age. Use of the instrument to date has demonstrated that the items are highly interesting to children 3 years to 11 years of age, and the subtests are easy to administer and score with a high degree of reliability.

2. Description and Utility of The CATE

Although there is a great amount of information on children's attitude development and the measurement of these attitudes, there is relatively little

material on children's attitudes toward aging and the elderly. In the area of attitudes toward the elderly, most investigations have focused on subjects above the 6th grade level. The CATE was developed to examine attitudes of children, between the ages of 3-11, toward aging and the elderly. The present CATE consists of four subtests, three of which measure children's attitudes toward the elderly and the final subtest which measures the children's understanding of age.

The testing time is short, 15 minutes, and can be done in one session even for three year old subjects. The administration and scoring procedures are detailed for each subtest in the following sections.

The child's performance on the Word Association subtest serves as an indication of the cognitive, affective, and behavioral components of his attitude toward aging and the elderly. As a measure of the child's attitude toward young and old people, the Semantic Differential subtest assesses the evaluative dimension of these attitudes. The Picture Series subtest assesses children's attitudes toward the elderly when presented with concrete examples of older and younger people. Each test reveals a different, yet important, aspect of what the child knows about the elderly, what he feels toward them, and how he acts toward them.

The Concept of Age subtest gives an indication of the child's level of cognitive development with regard to age concepts. This test can be used independently when awareness of the child's understanding of the concept of age is necessary for instructional purposes.

Word Association Subtest

Background and Development

Researchers have had success in assessing attitudes toward the elderly using instruments composed of open-ended type questions and variations of them (Golde and Kogan, 1959, Trebig, 1974). On the basis of these efforts, the word association questions of the CATE were developed to generate responses which would depict the affective, physical, and behavioral components of preschool and elementary school children's attitudes toward the elderly.

Questions were designed, tested and revised during the piloting phase until the final questions selected were found to yield the most information pertaining to children's attitudes toward older people.

The cognitive component of children's attitudes is measured by the following questions: (1) What can you tell me about old people? (2) What old people do you know? (3) Can you give me another name for old people?

In order to elicit responses related to the affective component, children are asked, "How do you feel about getting old?" The follow-up question, "What do you do with that person?" refers to the older people the child knows and specifically relates to the behavioral component of children's attitudes.

Administration

After establishing rapport with the child, the examiner asks each question on a one-to-one basis. Each interview is taped to preserve the exact wording of the children's responses. Tabulations can be made, however, on the answer sheet by noting the categories into which the responses fall and the number of responses given in each category. It is important to begin with this subtest first, so that the child receives no clues from pictures or other comments about older people. The ordering of subtests was selected to prevent the formation of response sets. Each child is allowed sufficient time to

respond but generally 30 seconds without a response should lead to the next question. In addition to wait time, it is also important that the child respond voluntarily without being prompted.

Definitions of Categories and Scoring of Word Association Questions

Section I

What can you tell me about old people?

The subjects' responses to this question are scored as belonging to one of three categories:

a. Affective - feelings about older people that are expressed by comments such as "they're nice, mean, kind," or "I like them."

b. Physical - Responses that pertain to physical attributes or personal appearance such as "they have wrinkles," "gray hair", "glasses," or "they wear pretty clothes."

c. Behavioral - Answers that describe characteristics based upon life styles of older people, including specific behaviors. Included under this category are things the older person has and things he does. Typical responses might be old people "have money," "dogs," "old houses," or "they walk funny," "they die," "they don't go out much."

After responses for each subject are separated into one of the three categories they are scored for frequency of responses in each category. For example, one subject may give 7 different responses, 2 of which fall into the affective category, 3 in the physical category and 2 in the behavioral category.

A frequency count can then be tabulated for the entire sample in order to determine the category receiving the most responses. Thus an indication as to how children view old people in terms of affective, physical or behavioral areas could be obtained.

In addition, within each category the degree of positiveness or negativeness is measured by rating a specific response as either positive or negative. In the affective category positive responses could include "they're nice," "I like them." Negative responses could be "they're mean," "nasty," "I don't like them," or include responses such as "they have wrinkles," "gray hair," "walk with crutches."

After each response is given a positive or negative rating, a score for each subject is determined by subtracting the number of negative responses from positive responses. This is done for all subjects across categories in order to determine if there are differences in degree of positive and negative responses on the basis of category or whether responses in general are more positive or negative. For example one child may give 5 responses in the behavioral category, 4 of which are negative. His score for that category would be a minus 3 (1-4 = -3).

Section 2

What old people do you know?

Responses from subjects to this question are scored as belonging to one of two categories:

1. Knowledge of old people within the family structure.

2. Knowledge of the elderly outside of the family.

Each category is coded and analyzed separately to yield a measure for each subject's knowledge of elderly family members ("yes" - "no"), and knowledge of other older persons ("yes" - "no").

What do you do with that person?

In order to assess the behavioral component of children's attitudes toward the elderly, children are asked to tell what they would do with the older person named. Responses to this question are divided into 3 categories for scoring purposes:

A. With-active: Responses indicating joint active or moving participation between subjects and the older person. Activities could involve going places, playing games, other than board games such as checkers, chess, etc., and doing things with each other such as cooking, planting gardens, etc.

B. With-passive: Responses referring to a quiet activity such as talking, reading, watching T.V., playing checkers with children and an older person doing something together of a quiet, passive nature.

C. For: Responses that portray either the subject, or the older person doing something for the other person. For example if the older person is seen as "cooking for me," "giving me presents," "lets me visit him," or the younger person "cleans the older person's house for him," "goes to the store for him," or helps in some way where the action is on the part of only one of the parties.

Each subject receives a coded score for the individual categories based on whether the subject did active things ("yes"-"no"), passive things ("yes"-"no"), things for with either the subject or the elderly as recipient ("yes" - "no').

Section 3

Can you give me another name for old people?

Responses are scored as either yes or no.

Yes - correct responses such as elderly, senior citizen, etc.

No - the subject is given a "no" score if he does not respond or the response is not appropriate, i.e., aunt, grandmom, George Washington.

Section 4

How do you feel about getting old?

Responses are divided into 3 categories:

A. Positive - The subject may look forward to getting old or give some indication that he feels good about it.

B. Neutral - Responses that are global such as "it's okay" or responses that imply one has little control over getting old because it's just in the scheme of things. A child might say "There's not much I can do about it," or "That's the way it has to be."

C. Negative - Responses that reflect an aversion to getting old such as "I don't want to," "I'm going to stay young," "That's terrible," or "I'll feel sad," "bad."

Each subject is given one coded score for this question either positive, neutral or negative. If a child gives 2 responses, 1 negative and 1 positive, his score would be neutral as the two would cancel out each other.

Validity and Reliability

The Word Association subtest was designed to adequately sample the possible universe of questions which assess the affective, cognitive and behavioral component of children's attitudes toward the elderly. (See Definitions and Scoring.) The piloting phase and consultation with experts in both the fields of gerontology and measurement permitted a refinement of the subtest. While the subtest is to be viewed as experimental and in need of further validity and reliability studies, an administration of the instrument to a random sample of children (N=180) ages 3 to 11, indicated a consistency of understanding of, and response to, test items. (See description of subjects - Appendix A.) Coefficients of inter-rater reliability (2 raters) on category scoring for the subtest ranged from .7977 to .9838.

Semantic Differential

Background and Development

During the piloting phase of The CATE, the decision was made to incorporate a more structured subtest into The CATE, which would further reveal children's attitudes toward the elderly. The possibility of using a semantic differential was explored and agreed upon. The semantic differential (SD) has several advantages. It is relatively easy to construct, and can be numerically scored facilitating analysis, and allowing comparisons to be made regarding sex, grade, and other variables.

In assessing attitudes toward the elderly, the SD has been used successfully in various research investigations (Kogan, 1961, Seltzer and Atchley, 1971, Thomas and Yamamota, 1975). Although most of the studies tested subjects above the high school level, Thomas and Yamamota found a semantic differential to be of value in determining the attitudes of children in grades 5, 7, 9 and 11 toward three concepts, young person, middle-age person, and old person. Results of their study indicate a more positive attitude, particularly in the evaluative dimension, than had been previously disclosed by other researchers.

The semantic differential (SD) constructed for this study consists of 10 items on a 5 point bi-polar scale rating the two concepts young people and old people. Bi-polar adjectives used in this instrument were selected for two reasons:

1. They are adjectives belonging to the Evaluation factor of the SD and account for the largest part of the total variance in comparison to other factors of potency, activity, dynamism, etc. It has been determined that the dominant dimension affecting children's ratings of concepts is the Evaluation factor, especially in the earlier grades. It has also been suggested that the potency and activity dimensions are not really discernible until at least fifth grade (Heise, 1970).
2. These evaluative adjectives had obtained high factor loadings through investigations by DiVesta (1966) into how children in grades two through seven rated more than 100 concepts. Factor loadings for

most adjectives selected were above .75. Four of the adjective pairs selected for use on The CATE were friendly-unfriendly (.92), ugly-pretty (.83), wrong-right (.80), and bad-good (.93). Factor loadings for the other six pairs of adjectives used on The CATE are not available.

Administration

The SD is administered orally to individual subjects by examiners. This method is preferable for young subjects. Each child is asked to rate first one concept then the other. Two separate forms are used rotating concept sequence and order of the scales. The polarity of the scales is also rotated so that half are in one direction and half in the other.

The procedure consists of asking the child to rate old people as good or bad. When the child selects one or the other, he is then asked to indicate the degree of intensity of response upon further questioning by the interviewer. For example, if the child responds that old people are good, the examiner will inquire, "Are they very good, good, or a little good?" This process in refining the answer allows the interviewer to place a mark on one of the 5 point scales. The same procedure is used for each of the 10, bi-polar scales with reference to old people, after which the child is asked to rate the concept of young people on the same scales.

Definitions and Scoring

The adjectives selected for rating the concepts of young and old people were good-bad, happy-sad, right-wrong, wonderful-terrible, pretty-ugly, friendly-unfriendly, clean-dirty, rich-poor, healthy-sick, helpful-harmful.

Each scale has a range of 5 points and the score for each scale can be 1 to 5. Scoring the semantic differential yields means and standard deviations on the total score for the concepts old people and young people as well as means and standard deviations on item scores. Each subject rates both concepts on the ten items, giving each item a score. Items for the two concepts old people and young people are reversed both in order of appearance, and in direction.

Validity and Reliability

The Semantic Differential Subtest is to be viewed as experimental and in need of further validity and reliability studies, however, investigations by DiVesta (1966) have established the appropriateness of the evaluation adjectives for young children, second through seventh grades, and have reported factor loadings for four of the bi-polar pairs as above .83. The validity and reliability of the SD for the 3 year old through first grade population has yet to be established, although an administration of the subtest to a random sample of 180 children ages 3 to 11 indicated a consistent understanding of adjectives and choice possibilities on the part of younger children.

While the semantic differential technique has been widely used as a attitudinal rating scale, its applicability to the rating by children of the concepts young people and old people has been investigated twice (Thomas and Yamamota, 1975 and Jantz, Seefeldt, Galper and Serock, 1976).

Table 2 presents the results of the administration of the Semantic Differential Subtest (2 scales) to a random sample of 180 children ages 3 to 11 by the developers of the instrument. (See description of sample - Appendix A.) Correlation with scale score for each item and scale correlations give some measure of the internal consistency of each scale.

TABLE 1

Total Scale and Item Statistics on

Semantic Differential For Concepts

Young People and Old People

Young People

Item	Correlation with Scale Score	Mean	SD
1	.562	3.833	1.200
2	.467	3.756	1.209
3	.498	2.972	1.123
4	.562	3.778	1.276
5	.589	3.939	1.283
6	.597	4.039	1.002
7	.669	3.794	1.228
8	.550	3.611	1.171
9	.558	3.800	1.293
10	.554	3.772	1.178
Total		37.294	5.708

Alpha .756

Old People

Item	Correlation with Scale Score	Mean	SD
11	.677	4.150	1.293
12	.559	3.572	1.247
13	.698	3.667	1.308
14	.609	4.028	1.204
15	.641	3.494	1.254
16	.493	4.183	1.152
17	.631	3.928	1.329
18	.450	3.250	1.277
19	.588	2.750	1.303
20	.498	4.006	1.209
Total		37.028	7.373

Alpha .787

Scale 1 & 2 Correlation .476

Picture Series

Background and Development

Various researchers have used pictures, drawings, and photographs as a means of eliciting attitudinal responses from samples of adults and children. Lawrence (1974) employed photographs to challenge the role stereotypes of adult subjects. Thomas and Yamamota (1975) explored the attitudes of students in grades 5, 7, 9, and 11 toward "young," "middle-age," and "old" persons. Since the CATE instrument was designed for use with preschool and elementary school students, the utility of a concrete pictorial representation was grounded in the research on child development which indicates that young children have difficulty in handling abstract verbal concepts.

Four 8" x 10" drawings were prepared by a professional artist after consultation with experts on the physiology of aging. The drawings represented men at four stages of life and were designed to elicit children's cognitive, affective and behavioral responses to concrete representations of age concepts. The drawings depict full face portraits of caucasian males. Sex, race, dress and facial expression were held constant in order that subject's responses to pictorial representations of four life stages would be based on the single variable of age. The drawings were then photographed for utilization as part of the testing instrument and to provide the capability for reproduction.

Validation of the drawings was established by asking graduate students in the fields of gerontology and human development to rate each drawing by giving it an estimated age. Mean age estimates and standard deviations are presented in Table 1.

Table 2

Means and Standard Deviations of Age Estimates of the Four Pictures

Graduate Students (N=35)	Picture 1	Picture 2	Picture 3	Picture 4
Mean	30.6	44.5	63.74	77.43
SD	5.2	6.52	7.29	6.16

Administration

The subtest is administered individually in accordance with specific instructions provided in the recording forms reproduced in the appendix. Verbal Instructions are contained in each section item. Response lists the possible alternative response categories for each question. The examiner is to check the appropriate box. Space is also provided for the recording of the child's response. All responses are tape recorded to insure a proper assignment of category of response and to facilitate movement from one question to another. Scorers should be thoroughly familiar with category definitions in order to insure adequate reliability of placement responses.

General testing considerations of the subtest are introduced by a statement such as "Now I will show you some pictures and ask you some questions about them." It is important that the examiner adapt the administration of the subtest to the child's speed.

Verbal instructions have been formulated to correspond to the vocabulary level of children 3 years of age and older. If children ask for clarification or do not respond to a question, the examiner may repeat, but not rephrase the question. A wait time of 30 seconds is established before the examiner proceeds to the next question.

Definitions of Categories and Scoring

Section 1

A. Which person do you think is the oldest? Why?

The first part of this question is scored on the basis of whether the subject is able to identify correctly the oldest man depicted in the pictures. If the subject chooses correctly, he is given

a "Yes" score. If the subject selects any but the oldest man, he receives a "No" score.

The second part or "Why" question is scored as either an evaluative response or a physical-descriptive response.

1. Evaluative - A response is considered evaluative if it refers to opinions or judgments, as made by the subject. Such responses would include, "he's nice," "mean," "sad," "bad," etc.

2. Physical-descriptive - Responses of this type would specifically relate to observable physical traits such as "he has gray hair," "wrinkles," "his lips are pushed in," etc.

For the rare instance when a child gives responses in both categories, the following procedure is followed: If 50% or more of a child's responses are typical of a category, the child's score is assigned to that category. For example, if a child gives one evaluative and four physical-descriptive responses, he is scored as physical-descriptive.

B. How will you feel when you are that old?

Responses are scored as either positive, neutral or negative in the same manner as Section 4 on the Word Association Test.

C. What things would you help this person do?

Responses are scored in two categories:

1. Affective - Responses pertaining to feeling or emotion where the child suggests that he would "be nice to" the older person, "love him," etc.

2. Behavioral Stereotype - Responses implying that the older person needs a great amount of help because of his age, such as "help him get well," "take him to the hospital," "help him walk," "clean up for him," "take care of him."

The following category was created to accommodate unique responses:

3. Behavioral Unique - Responses that are rare in occurrence and depict helping the older person in unique and different ways specific to the situation of the child. Examples of behavioral unique responses might be "I helped him carry boxes when he moved," or "carrying wood for his fireplace."

D. What things could he help you do?

Responses to this question are labeled either affective or behavioral stereotype.

1. Affective - Responses such as "he could be nice to me" or "love me."

2. Behavioral Stereotype - Responses indicating that "he could help me with my homework."

Responses are scored for subjects using the same procedure as in Picture Series for the question, "What things would you help this person do?"

Section 2

A. Can you put these pictures in order from the youngest to the oldest?
Each subject receives either a coded "Yes" score for placing the pictures in the correct order or a coded "No" score for ordering them incorrectly.

B. How old do you think each of these men are?
Age estimates given by each subject are recorded and used to determine mean-age estimates and standard deviations for the 4 pictures.

Section 3

A. Which of these people would you prefer to be with? Why?
The pictures are assigned a number 1-4, with the picture of the youngest man coded 1 and the oldest 4. The numbers are not marked on the pictures, but are recorded when a subject indicates his preference. For example, if the subject selects the youngest man, he is given a coded score of 1. If the subject chooses the oldest man, he receives a coded score of 4. Numbers represent which man is preferred.
The second part of the question refers to the basis upon which a subject prefers one of the men. Three types of responses are recorded:

1. Age-related - Any response specifically referring to age such as "he's older" or "he's younger".

2. Altrusitic - Responses suggesting unselfish motivations and having the older person's interest in mind, i.e. "I want to take care of him," "he needs help," "I can make him better."

3. Evaluative - As defined in Section 1, A. Responses might include such comments as "I chose him because he's nice," "he's happy," "he's like my grandfather," "he's more active," "he can give me things."

In the few instances in which a subject's responses cover more than one category, a judgment is made as to the strength of response and is scored as one category or the other.

B. What kinds of things could you do with that person?

Responses are scored as belonging to 3 categories, as in Section 2, B, Word Association Questions:

1. With-active
2. With-passive
3. For

Validity and Reliability

The Picture Series subtest was designed to sample the possible universe of items assessing the affective, cognitive and behavioral component of children's attitudes toward the elderly, through the use of concrete pictorial

representations of men at four stages of life. (See Definitions and Scoring). The drawings were validated by graduate students in the fields of gerontology and human development (See Background and Scale Development). Agreement on the physiological details of the drawings was obtained through consultation with experts in the fields of gerontology and measurement.

The subtest is to be viewed as experimental and in need of further validation and reliability studies. An administration of the instrument to a random sample of 180 children ages 3 to 11 (see description of sample-Appendix A) indicated that the sample children both understood the concepts depicted in the drawings, and were able to answer the questions relating to the pictures with a high degree of consistency of category choice. Coefficients of interrater reliability (2 raters) on category scoring for the subtest ranged from .7184 to .9777.

The Child's Concept of Age

Background and Development

The conviction that there is a strong cognitive-developmental factor in children's understanding of age concepts led to the design of a subtest based upon the developmental theory of Piaget (1969). The intent of the subtest was to provide a standardized procedure for placing children's concepts of age into a cognitive-developmental stage-by-stage progression in order that instructional methods and materials might be geared to the child's level of understanding. Piaget (1969) provides the basis for a study of the child's intellectual development with regard to the concept of

age, however there have been few attempts to develop measurement techniques and procedures to assess Piagetian concepts in this area.

Looft (1971) employed the Piaget framework to test the hypothesis that there is an increasing linear trend with age for the accuracy of judging the older of two human figures, and that there is a decreasing linear trend for judgments based on the single factor of size. The results of this study seem to provide some confirmation of the Piaget framework, nevertheless there has been no attempt to assess systematically the responses of samples of children in relationship to the stages suggested by Piaget.

The child's Concept of Age subtest was designed to determine if children follow a cognitive-developmental sequence in their ability to understand age concepts. The following questions posed by Piaget (1969) provided the basis for developing the Concept of Age subtest:

1. Does the child look upon aging as a continuous process in time? Is this process the same for all individuals?
2. Does the child associate age differences with birth order? This involves the relationship between duration (age itself) and succession (or the seriation of births).
3. Is age (time) associated with size or height (space), and not viewed as a continuum in its own right?
4. Does the child understand that age differences are maintained throughout life?

Piaget (1969) has suggested that the child's development of the ability to answer such questions follows a sequence of three cognitive-developmental stages.

Items included in the final subtest were refined and revised during the piloting phase both to provide an adequate sample of items in each of the four areas mentioned above, and to relate concretely to the child's experience. The Piagetian stages were further refined and Level 0 was added to accommodate subject's failure to respond or obvious misunderstanding of item. The levels or stages are explained in detail under Definitions and Scoring.

Administration

The subtest is introduced by a statement such as "Now I will ask you some puzzle type questions." The subtest is administered as an individual interview in which the subject is asked to reply "Yes" or "No" to the standardized statement made by the examiner. The examiner then asks "Why" the child chose a yes or no response in order to elicit the subject's reasoning and to locate the response precisely at a particular developmental level. The test booklet provides space for the recording of responses, however, all responses are tape recorded to insure proper assignment to level. Scorers should be thoroughly familiar with levels in order to insure adequate reliability. An examiner may repeat, but not rephrase an item. A wait time of 30 seconds is established before moving on to the next item.

Definitions and Scoring

This subtest consists of 12 statements which attempt to probe the child's intellectual development with regard to the concept of age. Each child receives a score based upon the level of response given in his explanation of why he agrees or disagrees with the statement. Responses are scored as belonging to one of the levels in the following scale based on the structural outline of the cognitive-developmental scale proposed by

Piaget. It is necessary to add Level 0 to cover cases where the youngest child has not yet reached the stage where he can attend to the questions. Each item can have a score of 0-3 in accordance with the level of response given. Total score on the Concept of Age subtest for a subject may range from 0 to 36.

Levels of Concept of Age Subtest

Level 0

The subject gives no response or obviously misunderstands the item, "Don't know," or "because" are typical responses at this level.

Level 1

The child understands the item but relates to it on a pre-operational, ego-centric and intuitive level. Ego-centric time is the projection of inner time to external objects. There is a lack of differentiation between the subject and the external world. The child fails to grasp the ideas of succession and duration operationally. Age is equated with size or other spatial or physical data. The child's reasoning will exhibit the following specific confusions.

Age differences are annulled or reversed by growth in height. Therefore, the child thinks that mother is the same age (size) as grandmother and that neither grow any older once they reach height maturity, while they themselves continue to grow. Fathers and grandfathers were born at the same time because they are now the same size. If someone is bigger (size) than you, then they are older.

They will further say that grandmother or grandfather was born old, that people can grow older at different rates(because they seem to grow

more or stop growing), that it is possible to "catch up" to another person in age by eating soup or sleeping well, because they have been told these things will make them grow. They fail to affirm that they were born after parents or teachers because of temporal ego-centrism--the existence of older people begins with their own memory. They further do not know how old they were when they were born because they "don't remember". Age, then, is not seen as a continuous process in time. Rather the apprehension of duration relates to its content--it is proportional to the changes perceived during it. "People grow bigger and then for a long time they remain the same and then quite suddenly they become old (Piaget, 1969, p. 227)."

Level II:

At level two the child's reasoning is of two types. The grasp of succession may precede the grasp of duration--the child is able to order births but fails to deduce permanence of age differences. Children's grasp of correspondence is restricted to actual age, i.e., "I get older on my birthdays." Or, duration may precede succession--age differences persist, but the child fails to deduce the order of succession of births from this information. In other words, succession and duration are not linked by logical necessity. The child is unable to reason: "A was born before B, because A is older," or "A is older than B because he was born before him." Therefore, partial answers appear to represent reasoning. Age is seen as a continuous process in time only insofar as it relates to specific situations. The child is unable to generalize--"Everyone must grow older." Age has been disassociated from height or size but replies such as "some kids are real tall and they're not very old" lack generalizability. Subjects are unable to coordinate age at birth with reasoning, although their judgmental accuracy

is more nearly correct; "I was 1 week old because I was just born."

Level III:

Duration and succession are coordinated and their relationship preserved through time. Reasoning exhibits the ability to form a representation of duration as an interval independent of what occurs in it. Children can deduce age from birth order and order of succession from colligation of ages. Reasoning at this level incorporates logical necessity ("if-then"), and generalizability ("Everyone," "all people.") Age is seen as a continuous process in time--"everyone must grow older every second" and the beginning of the process with age at birth is fully understood.

Scoring by Item

1. You will grow older, but your father will stay the same age. Why?

   Level 0 - No response or unrelated responses such as "My father likes me," or "I can run too," apply here.

   Level 1 - Responses such as "I'm older than my father," or "My father won't get older" are typical of this stage.

   Level 2 - Age is seen as a continual process insofar as it pertains to specific situations but does not necessarily apply to everyone. Typical responses are--"As I grow older, my father will grow even older," or "He'll get older," "He grows too."

   Level 3 - Complete understanding of age as a continuous process--responses might be "everyone gets older or must grow older," or "My father has to get older too, because everybody does."

2. Your mother and your grandmother are the same age. Why?

   Level 0 - No response, "don't know," "because" or unrelated responses such as "they have old ages when they have old ears," "they're older."

   Level 1 - Failure to associate age differences with order of births. Age is equated with size so age differences are annulled. Level 1 responses could be "they're as big as each other," "they don't have to be," "they can be any size," or "My grandmother's old."

   Level 2 - Responses indicate an awareness that age differences exist, but do not associate them with birth order. Responses do not refer to cause and effect. Examples are--"My mother's younger than my grandmother," or "they weren't born at the same time."

   Level 3 - Responses showing that age differences are related to birth order. "My grandmother was born before my mother so she's older," or "My grandmother's older than my mother, because she was born first."

3. Your grandfather was born before your father. Why?

   Level 0 - No responses or unrelated response such as "I dream of him," "I didn't see him."

   Level 1 - Responses which reveal a lack of understanding of birth order. "My father was born first," "My grandfather's getting old," or "My father grew up faster."

Level 2 - Partial understanding of birth order but without reference to logical necessity. Examples are: "My father's young and my grandfather's old," "My grandfather's older than my father," "My grandfather is my father's father."

Level 3 - Responses include the logical necessity of age differences deduced from birth order. Level 3 responses are--"My grandfather was born first, because he's older," or "My grandfather's older because he was born before my father."

4. You and your mother are the same age. Why?

Level 0 - Responses--"I don't know," "because," or unrelated responses.

Level 1 - Responses such as "Mothers are bigger," "My mother's younger," or "My mom's old."

Level 2 - Age differences and birth order are not associated by logical necessity. Typical responses are--"My mother was born before I was," or "I'm younger than my mother."

Level 3 - Responses reveal a definite relationship between birth order and age differences. Examples are "My mother is older because she was born first," or I was born after my mother, so I'm younger."

5. If someone was born first, then they are older than you. Why?

Level 0 - "I don't know," "because" or an unrelated response.

Level 1 - Typical responses indicate a failure to understand

succession--"they're big," "they were born before me, so they'd be younger, I would be older."

Level 2 - Responses would be "They were born before I was," or "born first."

Level 3 - Responses at this level might be - "People that are born first are older"or "If they were born first, then they are older than I am." Responses must include the cause and effect concept of "if one, then the other."

6. You were born before your teacher was born. Why?

Level 0 - No response, "because," or an unrelated response.

Level 1 - Incorrect response--"She's (my teacher) bigger." Confuses size with age differences. "My teacher knows more than me" or "She wouldn't be my teacher".

Level 2 - Fails to connect age differences with birth order--"My teacher was born before I was," or "She's older than I am."

Level 3 - Responses that link age difference to succession of birth. "My teacher is older, so she was born first," or "I was born after my teacher, so I'm younger."

7. Your grandfather grows older every year. Why?

Level 0 - No response or an unrelated response.

Level 1 - The child does not see aging as a continuous process. "She still looks the same," "She eats a lot," "She's not old," "She doesn't keep on having birthdays," or "She's bigger," all fall into this level.

Level 2 - Partially correct - responses indicate that age changes are related only to birth dates. Examples are "Because she has birthdays," or "each year she has a birthday."

Level 3 - Age is seen as a continuous process. Typical responses are, "Everybody gets older," or "Everyone has to grow older."

8. If someone is bigger than you, then they are older than you. Why?

Level 0 - No response or an unrelated response.

Level 1 - Responses such as "Sometimes they are, sometimes they're not," "They were born first," "When you grow older, you get taller (age is equated with size)."

Level 2 - Responses reflect a partial understanding but lack generalizability. Level 2 responses are "Some kids are real tall and they're not very old." "It doesn't matter how tall you are." "Some people grow taller than other people."

Level 3 - Grasps the idea of duration where age is not related to growth in height. Correct responses would be, "You can be bigger without being older," or "Bigger and older are not related."

9. You grow older every year. Why?

Level 0 - No response or an unrelated response.

Level 1 - Responses such as, "I'm only 5," "I grow bigger," "I'm too little."

Level 2 - Typical responses are--"This year I'm one year older than last year," "On my birthday."

Level 3 - Age is seen as a continual process in responses such as "Everybody must grow older."

10. If someone is 5 years older than you, they will always be 5 years older than you. Why?

Level 0 - No response or an unrelated response.

Level 1 - The child does not see that age differences are maintained through life. Responses are --"I'll get 8 and catch up," "He has birthdays," "They'd be bigger and older."

Level 2 - Responses indicate a belief that age differences are maintained but do not necessarily depend on order of birth. Examples are "He was born before me," "Every 5 years he'll be 5 years older than me," "I'd have a birthday after him."

Level 3 - Age differences are maintained and depend on order of birth. Typical Level 3 responses are--"We'll both keep growing at the same rate,""it's impossible to catch up," "He was born before me and I can't pass him in age."

11. Someone is two years older than you, but you will catch up to them and be the same age someday. Why?

Level 0 - No response or an unrelated response such as "I can run faster,"

Level 1 - Typical responses are--"Then we'll both be the same age," "When I have my birthday, I'll catch up," "If I'm bigger, I can catch up."

Level 2 - Responses do not associate birth order with maintenance of age differences. Examples are--"He's always older and

I'll only grow a little," "He'll always be older," "He was born before I was."

Level 3 - Age differences are maintained and are connected to birth order. Responses are --"If someone is born first, you can't catch up in age," "He was born before me," "I can't pass him in age."

12. How old were you when you were born?

Level 0 - No response or an unrelated response.

Level 1 - Typical responses are: "1 year because it was my first birthday," "1 month because that was the first month."

Level 2 - Either the age or reasoning given are correct but not both. Level 2 responses would be "1 day because I was just born," or"0 because you go 1,2,3,4,5, etc."

Level 3 - Understands age at birth--correct responses would be "0 because I was just born,""0 because my mother just had me."

Validity and Reliability

The Child's Concept of Age subtest is to be viewed as experimental and in need of further validity and reliability studies. A three-way analyses of variance from scores obtained through one administration of the subtest to 180 subjects randomly selected ages 3 to 11 (see description sample - Appendix A) revealed grade main effects significant at .001 level. Means and standard deviations are presented in Table 3.

TABLE 3

Means and Standard Deviations on Child's

Concept of Age by Grade and Sex

GRADE	SEX	MEAN SCORE	SD
6	M	24.417	4.078
	F	24.000	3.703
5	M	23.400	2.503
	F	20.700	2.983
4	M	19.800	3.736
	F	21.900	4.306
3	M	19.222	5.495
	F	19.636	4.178
2	M	16.400	5.103
	F	15.200	3.553
1	M	14.182	3.219
	F	13.000	2.646
Kgn	M	10.667	6.020
	F	11.500	3.964
4 yr. olds	M	6.600	5.082
	F	9.700	5.187
3 yr. olds	M	5.000	4.408
	F	4.000	3.104

Responses scored as belonging to initial developmental stages were in fact more often given by younger children, while older children were consistently rated near the top of the stage hierarchy. This consistent increase in stage scores with increasing age supports the hypothesis that the instrument measures concepts that are ordered in a cognitive-developmental sequence. In addition, children's responses to items on the subtest indicated that the instrument was, in fact, tapping the child's reasoning with regard to the concept embodied in the item. See Definitions and Scoring.

Relation of Child's Concept of Age Instrument to Conservation

The Child's Concept of Age subtest was administered together with three Piaget based conservation tasks from the **Goldschmid and Bentler** Concept Assessment Kit to 180 randomly selected children ages 3 to 11. If the development of age concepts follows a cognitive-development sequence, as measured by the subtest, then the child's performance on the subtest should be associated with conservation level. Chi-square tests demonstrated a significant association between children's performance on the concept of age subtest (total score) and conservation level (x^2 = 22.9.83, df = 93, $p < .001$) and a significant association between item score and conservation level (all significant at < .0001). In addition, total score on the concept of age subtest was significantly correlated with conservation level (r = .788).

Interrater Reliability

The two raters who scored the administration of the test to the original sample (N = 180) had a coefficient of interrater reliability of .9967. Further administrations of the subtest to various samples are needed to establish the reproducibility of results.

Normative Data

The Norm Sample

The CATE, Children's Attitudes Toward the Elderly, developed in consultation with authorities in the field of measurement, statistics and aging, was designed to assess the cognitive, affective and behavioral components of children's attitudes toward the elderly. Following the piloting of The CATE, it was administered to a sample of 180 children, 20 at each age level from 3 - 11. The administration of The CATE took place during the first month of 1976 in schools in a county system located adjacent to Washington, D. C.

Children from a school system in a county adjacent to Washington, D. C. were selected as the sample for this study of children's attitudes toward the elderly. The children were selected from the schools participating in the education center of the county. A broad range of socio-economic status is represented in the population of these schools. This county, until the past 15 years, has been largely agricultural in nature. During the past decade, however, the county has experienced a rapid population growth. People working in the greater Washington, D. C. metropolitan area have settled within the county in single family housing developments, housing projects and apartment complexes. The easy access to D. C. along with the opportunity to live in a suburban area have attracted many to the county. The rural agricultural population has remained in the county, thus providing a sample for this study that represented rural, suburban, and urban populations.

Characteristics of the selected county are reported in Figures 1-3.

Figure 1

Characteristics of the Community

Total Population	Median Family Income	Educational Level - Adults
56,159	$12,452	12.0

Characteristics of the schools within the county are reported in Figure 2.

Figure 2

Characteristics of the Schools Within the County

Total School Enrollment	Average Teacher Salary	Average Yrs. Teach. Exp.	Pupil/Teacher Ratio	Average Daily Attendance
16,820	$11,418	8.4	20.2	93.3%

Characteristics of the schools participating in this study are reported in Figure 3.

Figure 3

Characteristics of the Schools Participating in the Study

Total School Enrollment		Median Family Income	Average Yrs. Teacher Exp.	Pupil/Teacher Ratio	Average Daily Attendance
School 1	548	$9,879	7.0	21.1	95.0
School 11	1,428	11,083	6.0	22.1	94.5

Within the county schools of the teacher education center selected for the study, the total population of children at each grade level were pooled. Using a table of random numbers, 20 children were randomly selected from each of the grade level pools from Kingergarten to 6.

The following table presents a detailed description of the selected sample of children participating in the study in terms of sex, race and housing type.

TABLE 4

Description of Sample-Sex

Housing Type, Race By Grade

	Sex		Housing		Race	
Grade	Female	Male	Rural & Farm	Town & Development	White	Black
3 year old	12	8	*	*	16	4
4 year old	10	10	*	*	16	4
Kindergarten	8	12	5	15	17	3
First	9	11	5	15	16	4
Second	10	10	12	8	12	8
Third	11	9	10	10	12	8
Fourth	10	10	10	10	11	9
Fifth	10	10	9**	10	15	5
Sixth	8	12	7	13	14	6
Total	88	92	58	81	129	51
Percent	48.9	51.1	41.7	58.3	71.7	28.3

* No data
** No data 1 subject

To complete the sample, a group of 3 and 4 year old children were selected from a university nursery school. This school has an enrollment policy requiring a socio economic and racial mix of children. Thus these children, as those from the county system, represented the general population. Twenty 3 year old children and twenty 4 year olds were randomly selected from the total population of the children at the university nursery school.

In accordance with the guidelines for Research on Human Subjects, Department of Health, Education and Welfare, permission for children to participate in this study was obtained by asking the parents to sign permission slips. The permission form described the study, indicated the types of questions the child would be asked and the possible benefits of the study.

One hundred eighty children were tested individually on all subtests of The CATE to provide preliminary norms for the Semantic Differential, the Picture Series Section 2B (How old do you think each of these men are?), and the Piaget based Child's Concept of Age. An attempt was made to find testing centers which represented the entire socio-economic and racial composition spectrum of the society.

Semantic Differential

Table 5 presents summary information on the normative sample for the semantic differential subtest for the total sample and by grade level. Means and standard deviations are presented for the total scores on the subtest and for each item score. The performance of a given child can be compared to normative performance by entering the appropriate age level and either total or item score in Tables 6 - 15.

TABLE 5

Means and Standard Deviations for Summed Score

On Concepts Young People and Old People For

Total Sample and By Grade

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	37.294	6.708	37.028	7.373
Preschool	35.800	10.330	34.700	10.127
Kindergarten	38.050	6.823	37.700	6.017
Grade 1	37.950	5.652	36.950	7.890
Grade 2	40.350[1]	5.199	36.050[1]	9.019
Grade 3	37.650	5.341	36.350	5.062
Grade 4	36.150[2]	3.151	38.450[2]	4.201
Grade 5	37.150[3]	3.336	39.400[3]	4.128
Grade 6	36.750	4.460	38.950	4.466

[1] t, 1.856 $p < .05$; [2] t, - 1.96 $p < .05$; [3] t, - 1.897 $p < .05$

TABLE 6

Means and Standard Deviations for Item Scores

On Concepts Young People and Old People

For Total Sample and By Grade

Items 1 and 20
(helpful - harmful)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	3.833	1.200	4.006	1.209
Preschool	3.700	1.778	3.925	1.664
Kindergarten	3.850	1.195	3.800	1.249
Grade 1	3.850	1.014	3.850	0.943
Grade 2	4.250	1.043	4.100	0.943
Grade 3	3.950	0.865	4.000	1.049
Grade 4	3.500	0.592	3.800	1.122
Grade 5	3.950	1.023	4.400	0.917
Grade 6	3.750	0.766	4.250	0.829

TABLE 7

Means and Standard Deviations for Item Scores

On Concepts Young People and Old People For

Total Sample and By Grade

Items 2 and 19

(healthy - sick)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	3.756[1]	1.209	2.750[1]	1.303
Preschool	3.600[2]	1.786	2.325[2]	1.780
Kindergarten	3.800[3]	1.122	3.050[3]	1.396
Grade 1	3.700	0.954	3.100	1.375
Grade 2	4.000[4]	1.049	2.550[4]	1.322
Grade 3	3.700[5]	1.005	2.959[5]	0.921
Grade 4	3.450[6]	0.805	2.700[6]	0.714
Grade 5	3.950[7]	0.805	2.800[7]	0.600
Grade 6	4.000[8]	0.949	2.950[8]	0.973

[1] t, 7.984; [2] t, 3.195; [3] t, 1.875; [4] t, 3.846; [5] t, 2.46; [6] t, 3.124; [7] t, 5.134; [8] t, 3.45; ($p < .05$ for all $8\ t$'s)

TABLE 8

Means and Standard Deviations for Item Scores On Concepts Young People and Old People for Total Sample and By Grade

Items 3 and 18

(rich - poor)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	2.972[1]	1.123	3.250[1]	1.277
Preschool	2.600[2]	1.855	3.650[2]	1.810
Kindergarten	2.950	1.322	3.200	1.288
Grade 1	2.950	0.865	3.450	1.322
Grade 2	3.250	0.942	3.000	1.483
Grade 3	3.300	0.557	3.000	0.775
Grade 4	3.000	0.000	3.050	0.805
Grade 5	3.050	0.497	3.100	0.700
Grade 6	3.050	0.218	3.150	0.477

[1] t, - 2.317, ($p < .05$); [2] t, - 2.56 ($p < .05$)

TABLE 9

Means and Standard Deviations for Item Scores

On Concepts Young People and Old People For

Total Sample and By Grade

Items 4 and 17

(clean - dirty)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	3.778	1.276	3.928	1.329
Preschool	3.500	1.830	3.375	1.867
Kindergarten	3.750	1.374	3.900	1.091
Grade 1	4.000	0.894	3.850	1.195
Grade 2	4.400[1]	1.020	3.700[1]	1.389
Grade 3	3.650	0.910	3.600	1.020
Grade 4	3.850[2]	0.792	4.700[2]	0.536
Grade 5	3.650[3]	1.108	4.500[3]	0.671
Grade 6	3.700[4]	0.954	4.300[4]	0.843

[1] t, 1.818; [2] t, - 3.972; [3] t, - 2.941; [4] t, - 2.113

($p < .05$ for all 4 t's)

TABLE 10

Means and Standard Deviations for Item Scores

On Concepts Young People and Old People For

Total Sample and By Grade

Items 5 and 16

(friendly - unfriendly)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	3.939[1]	1.283	4.183[1]	1.152
Preschool	3.350	1.891	3.850	1.726
Kindergarten	4.150	1.062	4.350	0.792
Grade 1	4.300	0.781	3.850	1.195
Grade 2	4.200	1.077	3.900	1.044
Grade 3	4.150	0.853	4.450	0.740
Grade 4	4.200	0.812	4.350	0.853
Grade 5	4.050	1.071	4.500	0.671
Grade 6	3.700[2]	1.054	4.550[2]	0.589

[1] t, - 1.89, $p < .05$; [2] t, - 3.136, $p < .05$

TABLE 11

Means and Standard Deviations for Item Scores

On Concepts Young People and Old People For

Total Sample and By Grade

Items 6 and 15

(pretty - ugly)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	4.039[1]	1.002	3.494[1]	1.254
Preschool	4.300[2]	1.382	3.225[2]	1.837
Kindergarten	4.150	0.963	3.950	1.023
Grade 1	4.050	0.865	3.600	0.970
Grade 2	4.250	0.829	3.850	1.236
Grade 3	4.050[3]	0.805	3.350[3]	0.726
Grade 4	3.650	0.726	3.200	1.122
Grade 5	3.700	0.781	3.500	0.742
Grade 6	3.900	0.768	3.550	0.973

[1] t, 4.698, $p < .05$; [2] t, 2.953, $p < .05$; [3] t, 2.89, $p < .05$

TABLE 12

Means and Standard Deviations for Item Scores

On Concepts Young People and Old People For

Total Sample and By Grade

Items 7 and 14

(wonderful - terrible)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	3.794[1]	1.228	4.028[1]	1.204
Preschool	3.550	1.802	3.775	1.739
Kindergarten	4.000	1.183	4.000	1.225
Grade 1	3.800	0.872	3.800	1.030
Grade 2	3.950	1.117	3.900	1.136
Grade 3	3.800	0.812	4.050	0.805
Grade 4	3.650[2]	0.963	4.350[2]	0.910
Grade 5	3.800	0.872	4.150	0.792
Grade 6	4.050	1.023	4.450	0.742

[1] t, - 1.93, $p < .05$; [2] t, - 2.365, $p < .05$

TABLE 13

Means and Standard Deviations for Item Scores On Concepts Young People and Old People For Total Sample and By Grade

Items 8 and 13

(right - wrong)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	3.611	1.171	3.667	1.308
Preschool	4.025	1.604	3.525	1.830
Kindergarten	3.750	1.337	3.650	1.108
Grade 1	3.800	0.872	3.650	1.314
Grade 2	3.750	1.178	3.700	1.187
Grade 3	3.400	0.800	3.350	0.910
Grade 4	3.700[1]	0.748	3.800[1]	0.927
Grade 5	3.450[2]	0.921	4.100[2]	1.091
Grade 6	3.100[3]	0.539	3.700[3]	2.054

[1] $t, -2.076, p < .05$; [2] $t, -2.03, p < .05$; [3] $t, -2.273, p < .05$

TABLE 14

Means and Standard Deviations for Item Scores

On Concepts Young People and Old People For

Total Sample and By Grade

Items 9 and 12

(happy - sad)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	3.800[1]	1.293	3.752[1]	1.247
Preschool	3.050	1.883	3.650	1.797
Kindergarten	3.800	1.077	3.750	0.994
Grade 1	3.950	1.071	3.550	1.203
Grade 2	4.100[2]	0.889	3.450[2]	1.322
Grade 3	3.900[3]	1.044	3.100[3]	0.943
Grade 4	3.900	0.831	3.750	0.766
Grade 5	4.300[4]	0.843	3.650[4]	0.910
Grade 6	4.150	0.853	3.600	0.860

[1] t 1.795; [2] t, 1.826; [3] t, 2.55; [4] t, 2.346 ($p < .05$ for all 4 t's)

TABLE 15

Means and Standard Deviations for Item Scores

On Concepts Young People and Old People For

Total Sample and By Grade

Items 10 and 11

(good - bad)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	3.772[1]	1.178	4.150[1]	1.293
Preschool	4.125[2]	1.536	3.400[2]	1.908
Kindergarten	3.850	0.853	4.050	1.071
Grade 1	3.550[3]	1.359	4.250[3]	1.043
Grade 2	4.200	0.872	3.900	1.179
Grade 3	3.750[4]	0.942	4.500[4]	0.866
Grade 4	3.750[5]	0.887	4.700[5]	0.640
Grade 5	3.250[6]	0.994	4.700[6]	0.640
Grade 6	3.350[7]	0.910	4.450[7]	0.740

[1] t, - 3.048; [2] t, 1.87; [3] t, - 1.827; [4] t, - 2.62; [5] t, - 3.893;

[6] t, - 5.492; [7] t, - 4.198 ($p < .05$ for all 7 t's)

Picture Series

Table 16 presents summary information on the normative sample for the Picture Series, Section 2B (How old do you think each of these men are?) Means and standard deviations on age estimates are presented by grade level. The performance of a given child may be compared to normative performance by entering the appropriate age level and picture category in Table 16.

TABLE 16

Means and Standard Deviations of Age Estimates

by Grade for Pictures of Four Men

Grade		Picture 1	Picture 2	Picture 3	Picture 4
3 year olds	Mean	5.7	4.8	6.3	6.5
	SD	4.4	5.1	4.5	4.4
4 year olds	Mean	11.3	15.0	16.0	15.4
	SD	9.3	14.4	19.5	26.8
Kindergarten	Mean	24.8	21.1	25.6	27.9
	SD	28.0	20.0	29.5	30.5
First	Mean	28.2	33.1	41.2	59.4
	SD	21.4	23.8	22.8	40.3
Second	Mean	29.0	33.7	42.7	70.9
	SD	15.3	16.9	25.6	29.4
Third	Mean	29.5	38.9	51.2	65.0
	SD	9.9	17.1	18.7	24.6
Fourth	Mean	29.7	38.1	52.5	70.2
	SD	6.6	8.2	8.0	11.9
Fifth	Mean	29.7	40.8	55.1	71.6
	SD	11.8	10.1	8.6	13.2
Sixth	Mean	25.1	34.5	49.0	62.7
	SD	4.9	5.6	9.6	8.1
Graduate Students	Mean	30.6	44.5	63.7	77.4
	SD	5.2	6.5	7.3	6.2

Concept of Age

Table 17 presents summary information on the normative sample for the Concept of Age subtest broken down by grade level and sex. The performance of a given child may be compared to normative performance by entering the appropriate grade level and sex in Table 17.

TABLE 17

Mean and Standard Deviations on Child's Concept of Age by Grade and Sex

Grade	Sex	Mean Score	SD
6	M	24.417	4.078
	F	24.000	3.703
5	M	23.400	2.503
	F	20.700	2.983
4	M	19.800	3.736
	F	21.900	4.306
3	M	19.222	5.498
	F	19.636	4.178
2	M	16.400	5.103
	F	15.200	3.553
1	M	24.182	3.219
	F	13.000	2.646
Kindergarten	M	10.667	6.020
	F	11.500	3.964
4 year olds	M	6.600	5.082
	F	9.700	5.187
3 year olds	M	5.000	4.408
	F	4.000	3.104

Comparisons of performance by a given child on other sections of The CATE may be obtained by reference to the absolute and relative frequencies of category choice for the total sample and by grade level as presented in Chapter Four of Final Report (Jantz, et al, 1976).

THE CATE

CHILDREN'S ATTITUDES TOWARD THE ELDERLY

by

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Subjects

The subjects for the study were selected by utilizing a stratified random sampling technique. Twenty children at each of 9 grade levels were randomly selected out of the total pool of available subjects for that grade level. The preschool population (3 and 4 year olds) were drawn from a university center. Children in kindergarten through sixth grade were from two public schools in a county adjacent to the Washington, D. C. metropolitan area. The following tables present a more detailed description of the sample in terms of sex, race, and housing type of subjects.

(1)

TABLE 1

Description of Sample

Housing Type* and Race by Sex

	Housing Type				Race			
	Rural & Farm		Town & Development		White		Black	
Sex	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Female	29	44	37	56	61	69.3	27	30.7
Male	29	39.7	44	60.3	68	73.9	24	26.1

*No data for preschool subjects and 1 fifth grader.

In addition, 93.1 percent of black subjects lived in either rural or farm settings, while 81.2 percent of white subjects lived in town or development housing.

TABLE 2

Description of Sample-Sex,

Housing Type, Race by Grade

	Sex		Housing		Race	
Grade	Female	Male	Rural & Farm	Town & Development	White	Black
3 Year Old	12	8	*	*	16	4
4 Year Old	10	10	*	*	16	4
Kindergarten	8	12	5	15	17	3
First	9	11	5	15	16	4
Second	10	10	12	8	12	8
Third	11	9	10	10	12	8
Fourth	10	10	10	10	11	9
Fifth	10	10	9**	10	15	5
Sixth	8	12	7	13	14	6
Total	88	92	58	81	129	51
Percent	48.9	51.1	41.7	58.3	71.7	28.3

*No data.

**No data 1 subject

WORD ASSOCIATION

Section 1

What can you tell me about old people? Positive Negative

Frequency Count - Affective Responses

Physical Responses

Behavioral Responses

Section 2

What old people do you know?

Family: Yes No

Others: Yes No

What do you do with that person?

With-active: Yes No

With-passive: Yes No

For: Yes No

Section 3

Can you give me another name for old people?

Yes No

Section 4

How do you feel about getting old? Check one.

Positive _____

Neutral _____

Negative _____

PICTURE SERIES

Section 1

Directions: Photographs are shuffled and placed in random order on testing table.

A. Which person do you think is the oldest?

Response: (Ability to identify) Yes No

Why?

Response: Evaluative Physical-descriptive

B. Photographs remain on table.

Directions: If child has identified correctly in (A), examiner continues.

If child has failed to identify, examiner points to photograph of oldest man.

How will you feel when you are that old?

Response: positive neutral negative

C. Directions: Examiner points to oldest person.

What things would you help this person do?

Response: affective behavioral stereotype behavioral unique

D. Directions: Examiner points to oldest person.

What things could he help you do?

Response: affective behavioral stereotype

Section 2

Directions: Photographs remain on testing table in random order.

A. Can you put these pictures in order from the youngest to the oldest?

Response: (Ability to order) yes no

Directions: Photographs are placed in proper sequence. Examiner points to photographs, one at a time in correct order.

B. How old do you think each of these men are? Record actual age.

Photograph 1 (Youngest)

Photograph 2 (2nd Youngest)

Photograph 3 (2nd Oldest)

Photograph 4 (Oldest)

Section 3

Directions: Examiner indicates all four photographs.

A. Which of these people would you prefer to be with?

1 2 3 4

Why? age-related altruistic evaluative

Directions: Examiner points to photograph chosen in 3 (A).

B. What kinds of things could you do with that person?

Response: with-active with-passive for

SEMANTIC DIFFERENTIAL

Young People

	Very		A Little		Very	
Helpful	____,	____,	____,	____,	____,	Harmful
Sick	____,	____,	____,	____,	____,	Healthy
Rich	____,	____,	____,	____,	____,	Poor
Dirty	____,	____,	____,	____,	____,	Clean
Friendly	____,	____,	____,	____,	____,	Unfriendly
Ugly	____,	____,	____,	____,	____,	Pretty
Wonderful	____,	____,	____,	____,	____,	Terrible
Wrong	____,	____,	____,	____,	____,	Right
Happy	____,	____,	____,	____,	____,	Sad
Bad	____,	____,	____,	____,	____,	Good

SEMANTIC DIFFERENTIAL

Old People

	Very		A little		Very	
Good	_____,	_____,	_____,	_____,	_____,	Bad
Sad	_____,	_____,	_____,	_____,	_____,	Happy
Right	_____,	_____,	_____,	_____,	_____,	Wrong
Terrible	_____,	_____,	_____,	_____,	_____,	Wonderful
Pretty	_____,	_____,	_____,	_____,	_____,	Ugly
Unfriendly	_____,	_____,	_____,	_____,	_____,	Friendly
Clean	_____,	_____,	_____,	_____,	_____,	Dirty
Poor	_____,	_____,	_____,	_____,	_____,	Rich
Healthy	_____,	_____,	_____,	_____,	_____,	Sick
Harmful	_____,	_____,	_____,	_____,	_____,	Helpful

THE CHILD'S CONCEPT OF AGE

1. You will grow older, but your father will stay the same age.

   Why?

2. Your mother and your grandmother are the same age.

   Why?

3. Your grandfather was born before your father.

   Why?

4. You and your mother are the same age.

   Why?

5. If someone was born first, then they are older than you.

   Why?

6. You were born before your teacher was born.

   Why?

7. Your grandmother grows older every year.

   Why?

8. If someone is bigger than you, then they are older than you.

   Why?

9. You grow older every year.

   Why?

10. If someone is five years older than you, they will always be five years older than you.

    Why?

11. Someone is two years older than you, but you will catch up to them and be the same age someday.

    Why?

12. How old were you when you were born?

    Why?

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